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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/759,073 | 01/20/2004 | Michael Conradt | 1454.1509 | 7154 |

21171 7590 01/03/2008

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| EXAMINER | |
|---|---|
| RUTKOWSKI, JEFFREY M | |
| **ART UNIT** | **PAPER NUMBER** |
| 2619 | |
| **MAIL DATE** | **DELIVERY MODE** |
| 01/03/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/759,073 | CONRADT ET AL. | |
| | Examiner | Art Unit | |
| | Jeffrey M. Rutkowski | 2619 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after t he mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 1-5, 7-8, 10-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyagi et al. (US Pg Pub 2002/0032761), hereinafter referred to as Aoyagi, in view of Case et al. (Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2)), hereinafter known as RFC 1907, and McCloghrie et al. (Management Information Base for Network Management of TCP/IP-based internets: MIB-II), hereinafter known as RFC 1213.

4. For **claims 1, 4-5, 10-11**, Aoyagi teaches an administrator terminal **71** (central management component) **[0139]** determines whether or not a device has implemented a Simple Network Management Protocol (SNMP) agent **[0142]** (determining, from a central management component, whether a network component is a management-capable network component).

Aoyagi anticipates using previous knowledge about a device by teaching Management Information Base (MIB) objects are stored in tables. The devices are classified into one of router, bridge, switching hub, intelligent hub, terminal or printer **[0155 and figures 8-11]** (if the network component is a management-capable network component, using services provided in the past by the management-capable network component to classify the management-capable network component). An automatic recognition service program is used to determine whether or not a host is SNMP enabled **[0142]** (an inquiry unit to determine, whether a network component is a management-capable network component). An MIB access module is used to classify devices based on the type MIB supported **[0154]** (a classification unit).

5. Aoyagi teaches a bridge MIB contains an object that stores the MAC addresses of devices connected to individual packet relay equipment. The information is used to determine port-by-port connections of each piece of packet relay equipment can be detected **[0157]**. Aoyagi does not teach determining whether or not packets have already been forwarded. RFC 1213 teaches the determining forward packet limitation absent from the teachings of Aoyagi by disclosing an ipForwDatagrams MIB object is used to determine the number of datagrams for which a network device was not the destination. Since the device was not the destination an attempt was made to a route to forward the datagrams **[page 27]** (determining whether data packets have already been forwarded between interfaces of the network component). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a ipForwDatagrams MIB object in Aoyagi's invention to give a strong indication the device may categorized as a router.

6. Aoyagi does not teach determining whether a network component supports layer 3 of the OSI reference model. RFC 1907 teaches the network component determination limitation absent

from the teachings of Aoyagi by disclosing a sysServices MIB object is used to determine the set of services a network device potentially offers. The MIB type uses an integer value to indicate on which layer of the Open Systems Interconnect (OSI) model services are being offered **[page 5]** (determining whether the network component supports layer 3 of the OSI reference model). Given RFC 1213 teaches the detection of an intermediate node and RFC 1907 teaches detection of a packet forwarding device it would have been obvious to a person of ordinary skill in the art at the time of the invention to classify the device as a router if the device forwards packets and supports layer 3 (if the network component supports layer 3 and data packets have already been forwarded, classifying the network component as a router). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a sysServices MIB object in Aoyagi's invention to enable devices connected to a network to be classified by service type.

7. For **claims 2 and 3**, Aoyagi teaches an automatic recognition service program functions as an SNMP manager. The program recognizes those devices running an SNMP agent **[0142]** (a management agent unit is provided in each network component that is a management-capable network component and the management agent unit enables communication between the central management component and the management-capable network component).

8. For **claim 7**, Aoyagi teaches each device in a network has an SNMP agent and a management information base. The device information is obtained by sending an Internet Control Message Protocol (ICMP) request from an administrator terminal to devices on the network **[0015]**. The teachings of RFC 1907 and RFC 1213 teach the sysServices and the ipForwDatagrams managed objects **[see claim 5]** (the network component has a management information base with managed objects, and whether the network component supports layer 3

and whether data packets have already been forwarded are determined by an interrogation of the managed objects).

9. For **claim 8**, Aoyagi teaches each device in the network has an SNMP agent **[see claim 7]** (wherein the management information base is administered by a management agent unit provided in the network component).

10. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyagi as modified by RFC 1907 and RFC 1213 as applied to **claim 5** above, and further in view of Fujino et al. (US Pat. 5,651,006), hereinafter known as Fujino.

11. The combination of Aoyagi, RFC 1907 and RFC 1213 teach everything in **claim 5**. Aoyagi teaches the use of an ifNumber MIB object **[Aoyagi, figure 5]** and an ifNumber object **[RFC 1213, page 16]**. The ifNumber object is an integer value that represents the number of network interfaces, regardless of their current state, present on a system. The combination also teaches an ifType object is used to determine the interface type based on physical and link layer protocols **[RFC 1213, page 18]**. The combination does not teach how a switch or a host is determined. Fujino teaches the host determination limitation absent from the teachings of the combination by disclosing a router interrogates a "host" to determine if the device is a gateway, ipForwarding object set to "1". After determining whether or not the host is a gateway the number of ports are counted using the ifNumber object **698**. If there is only one active port **699**, a "normal" status is given to the host. However, if there is more than one active port and the interface is not a loopback interface **699** then a status is set to marginal **[figure 20]** (if the network component does not support layer 3 and/or the network component has not already

forwarded data packets, then ports of the network component are counted, if the number of ports is greater than 1, the network component is classified as a switch, and if the number of ports is not greater than 1, then the network component is classified as a host).

12. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a "normal" status to identify a host in Aoyagi's invention since a device with one active interface and does not support Internet Protocol (IP) forwarding is a host. It also would have been obvious to a person of ordinary skill in the art at the time of the invention to use a "marginal" status to identify a switch in Aoyagi's invention since a device not supporting IP forwarding and with multiple active interfaces is more likely a switch.

13. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyagi in view of RFC 1213 and RFC 1907 as applied to **claim 1** above, and further in view of Fujino.

14. Aoyagi teaches everything in **claim 1**. Aoyagi does not teach classifying a network device as a host if SNMP is not supported. Fujino teaches the host classification absent from the teachings of Aoyagi by disclosing if a device does not respond to an SNMP request, it is classified as a "host" **[col. 13 lines 27-30]** (further comprising, if the network component is not a management-capable network component, presuming that the network component is a host).

15. It would have been obvious to a person of ordinary skill in the art at the time of the invention to classify network devices not supporting SNMP as a host in Aoyagi's invention since an administrator may have SNMP "turned off" on host devices to avoid security exploits.

***Response to Arguments***

16. Argument:

Neither RFC 917 nor RFC 1907 disclose determining whether the network component supports layer 3 of the OSI reference model or determining whether data packets have already been forwarded in the past between the interfaces of the management-capable network component for the purpose of properly classifying a management-capable network component.

Response:

The examiner considers the applicant's argument moot because the deficiencies found in Aoyagi were made up by the combination of RFC 1213 and RFC 1907.

17. Argument:

The Examiner's motivation for combining the references is not proper. Aoyagi et al. provides no motivation for determining whether data packets have already been forwarded in the past as an indication for a classification of network components. Further, the teaching or suggestion to make the claimed combination must be found in the prior art, and not be based on applicant's disclosure.

Response:

RFC 1907 gives an example in the sysServices object type of detecting a router by using a formula that takes into account the OSI layer, L, where the devices operates, in the example layer 3. Additionally, it is well-known in the art that a router operates at Layer 3 of the OSI model. Therefore, the reconstruction is proper because it was made with knowledge within the level of ordinary skill at

the time the claimed invention was made and did not include knowledge gleaned only from the applicant's disclosure. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

18. Applicant's arguments filed 12/10/2007 have been fully considered but they are not persuasive, for the reasons stated above.

***Conclusion***

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571) 270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski
Patent Examiner
12/31/2007

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